

## CLAIMS

What is claimed is:

- 5        1.    An arrangement for providing an improved common mode  
         rejection ratio in a load driver circuit having an input  
         voltage and a ground voltage, said arrangement comprising:  
             a voltage regulator adapted to regulate said ground  
             voltage in response to variations in said input voltage and  
10        coupled to provide a regulated ground voltage;  
             amplifier means including sense inputs coupled to receive  
             voltage signals from a sense resistor of said load driver  
             circuit, for providing an amplified output voltage;  
             wherein said amplifier means is adapted to be powered by  
15        power terminals coupled to said input voltage and said  
             regulated ground voltage respectively, such that the common  
             mode rejection ratio of the load driver circuit is reduced.
- 20        2.    The arrangement of claim 1 wherein said amplifier  
             means includes first and second differential amplifiers.
- 25        3.    The arrangement of claim 2 wherein said first  
             differential amplifier has power terminals coupled to said  
             input voltage and said regulated ground voltage  
             respectively and said second differential amplifier has  
             power terminals coupled to said input voltage and said  
             ground voltage respectively.

4. The arrangement of claim 3 wherein said first and second differential amplifiers each have gain values adapted to produce a circuit gain value of substantially unity.

5. The arrangement of claim 4 wherein said second differential amplifier has a non-inverting input coupled to an output of said first differential amplifier and an inverting input coupled to said regulated ground voltage.

6. A load driver circuit comprising:

an arrangement for providing an improved common mode rejection ratio in said load driver circuit having an input voltage and a ground voltage, said arrangement comprising:

a voltage regulator adapted to regulate said ground voltage in response to variations in said input voltage and coupled to provide a regulated ground voltage;

amplifier means including sense inputs coupled to receive voltage signals from a sense resistor of said load driver circuit, for providing an amplified output voltage;

wherein said amplifier means is adapted to be powered by power terminals coupled to said input voltage and said regulated ground voltage respectively, such that the common mode rejection ratio of the load driver circuit is reduced.

7. The load driver circuit of claim 6 wherein said circuit is a high side driver circuit.

8. The circuit of claim 7 wherein said amplifier means includes first and second differential amplifiers.

9. The circuit of claim 8 wherein said first differential amplifier has power terminals coupled to said input voltage and said regulated ground voltage respectively and said second differential amplifier has power terminals coupled to said input voltage and said ground voltage respectively.

10. The circuit of claim 9 wherein said first and second differential amplifiers each have gain values adapted to produce a circuit gain value of substantially unity.

11. The circuit of claim 10 wherein said second differential amplifier has a non-inverting input coupled to an output of said first differential amplifier and an inverting input coupled to said regulated ground voltage.

12. A method for providing an improved common mode rejection ratio in a load driver circuit having an input voltage and a ground voltage, said method comprising the steps of :

regulating said ground voltage in response to variations in said input voltage in order to provide a regulated ground voltage; amplifying voltage signals received from a sense resistor of said load driver circuit using amplifier means, for providing an amplified output voltage; wherein said amplifier means is adapted to be powered by power terminals coupled to said input voltage and said regulated ground voltage respectively, such that said common mode rejection ratio of said load driver circuit is reduced.

13. The method of claim 12 wherein said amplifier means includes first and second differential amplifiers.

14. The method of claim 13 wherein said first differential amplifier has power terminals coupled to said input voltage and said regulated ground voltage respectively and said second differential amplifier has power terminals coupled to said input voltage and said ground voltage respectively.

15. The method of claim 14 wherein said first and second differential amplifiers each have gain values adapted to produce a circuit gain value of substantially unity.

16. The method of claim 15 wherein said second differential amplifier has a non-inverting input coupled to

an output of said first differential amplifier and an inverting input coupled to said regulated ground voltage.